DOCUMENT RESUME

ED 347 984 IR 015 721

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TITLE Identifying a Range of Performance Improvement Solutions--High Yield Training to Systems Redesign--through Evaluation Research.
PUB DATE Feb 92
NOTE 12p.; In: Proceedings of Selected Research and Development Presentations at the Convention of the Association for Educational Communications and Technology and Sponsored by the Research and Theory Division; see IR 015 706.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS College Administration; College Faculty; Community Colleges; *Evaluation Research; *Models; *Needs Assessment; *Professional Development; Professional Personnel; Two Year Colleges
IDENTIFIERS *Performance Technology

ABSTRACT

This paper describes a needs assessment process that identifies a range of performance improvement strategies using the steps of the Evaluation Research Model (Geroy and Wright, 1988). A detailed description of a project conducted by the Professional Development Committee of a mid-sized community college in suburban Philadelphia to identify professional development activities for the administrators, faculty, and support personnel of the college is used to illustrate this process. All of the challenges identified by outside consultants were addressed: (1) all employees (stakeholders) were involved equally in identifying professional development needs; (2) the planning committee recognized that certain non-training actions were required to maximize the worth of training; (3) data were elicited from all 280 employees that represented both their wants and their needs; and (4) decision makers were provided with a systematic process for selecting professional development activities that will yield maximum results for cost and effort. The project illustrated the number and kind of responses generated through the nominal group technique (NGT), as well as the range of professional development options that emerge from NGT responses. It reflected the cutting edge of performance technology by virtue of its application in an academic setting, involving all employees of the organization, addressing the desire of the organization for training while simultaneously presenting alternative performance improvement solutions, and introducing performance technology as the decision making model for all HRD (human resource development) functions of the organization. The project also provided techniques, references, and examples that can be used in convincing decision makers of the value of conducting a needs assessment. (5 references) (BBM)

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Title:

Identifying a Range of Performance Improvement Solutions - High Yield Training to Systems Redesign - Through Evaluation Research

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Identifying A Range of Performance Improvement Solutions - High Yield Training to Systems Redesign - Through Evaluation Research

Introduction

The effectiveness of any organization is dependent on its most important resources: people. Systems and techniques abound for the purpose of developing human resources. These are designed to help an organization get the best performance from some type of training. Analysis can show what kind of training is most appropriate for achieving improved performance and also reveal when training is not necessary in order to achieve improved performance. One method that accomplishes both of these ends is evaluation research (Geroy and Wright, 1988).

Figure 1
Evaluation Research Model

1. Selection of Evaluation Research Purpose

__ Needs Assessment	__ Small Scale Testing	__ Policy Analysis
__ Basic Research	__ Evaluation	__ Fiscal Accountability
__ Coverage Accountability	__ Input Assessment	__ Economic Analysis

2. Identify the Technique to be Used

__ Front End Analysis	__ Program Monitoring	__ Impact Evaluation
__ Formative Evaluation	__ Evaluability Assessment	__ Evaluation of Evaluation

3. Develop Research Questions

4. Establish a Collaborative Utilization Focused Process

A. Compose Task Force	B. Structure Task Force Activities
- All stakeholders represented	- Focus clarification
- Power exists to act on findings	- Methods and measurement selection
- Time committed	- Review of instruemtns and strategies
- Process and results valued	- Data interpretation meeting

5. Determine Research Focus

__ Evaluation research with goals __ Evaluation research without goals

6. Determine Evaluation Research Strategy

__ Scientific - hypothetical - deductive __ Anthropological - holistic - inductive

7. Select Data Collection Method

__ Formal instruments, e.g., survey __ Non-formal instruments, e.g., structured or non-structured interview

8. Implement Research

9. Analyze and Report Results

Geroy and Wright, 1988

Evaluation research is a pragmatic, program focused research strategy of analysis for decision makers. Its purpose is to provide data that can enable decision making, through analysis of pros and cons, through prioritizing, or through the application of decision making criteria, etc. What gives evaluation research its strength is the extent to which the stakeholders

are involved throughout the research process. This involvement yields four primary benefits: feasibility in terms of cost, timeliness and manner of implementation; and utility, accuracy, and proprietorship in terms of outcome.

Beginning with Phase One: Selection of Evaluation Research Purpose (See Figure 1), the research evaluators and the stakeholders "become collaborating partners in the search for useful information" (Geroy and Wright, 1988, p. 23). From then on, collaboration is structured at each step of the process. This collaboration provides a means of monitoring the appropriateness and relevancy of each activity and strategy, as well as its feasibility regarding time and resources. As a result, the information gathered is more likely to be on target in addressing the needs of the stakeholders. It is also more likely to facilitate decision making both through its accuracy and the usefulness of the way the information is reported.

Furthermore, those who have helped structure the process, as well as those from whom the data is derived, have greater ownership of the results. Their potential buy-in to the recommendations stemming from the research is increased (proprietorship). In each case the data gathered are used to either create, maintain or improve program policy and / or implementation practices.

This article describes a needs assessment process that identifies a range of performance improvement strategies using the steps of the Evaluation Research Model.

Overview

The Professional Development Committee of a mid-sized community college in suburban Philadelphia had the responsibility of identifying professional development activities for the administrators, faculty and support personnel of the college. In light of concern voiced over past professional development offerings, the committee decided to use outside consultants to help them plan their professional development program. After three lengthy meetings with the committee, the consultants identified five problems imbedded in the environment that were influencing the decision making process:

- lack of agreement among committee members as to how to select professional development opportunities,
- limited communication of information across functional groups,
- negative perceptions of previous professional development efforts,
- perceived unresponsiveness of decision makers to past suggestions related to professional development, and
- recent loss of incentive due to reduced power and autonomy within the faculty structure.

It became apparent that the final professional development plan for the 1991-92 academic year had to:

- involve and empower all employees (stakeholders) equally in identifying professional development needs,
- develop a means by which the planning committee itself would recognize that certain non-training actions were required in order to maximize the worth of training,
- elicit data that would represent needs of the employees of the college,
- elicit valid data while facilitating a process with 280 participants, and
- provide decision makers with systematic process for selecting professional development activities that will yield maximum results for cost and effort.

Using the evaluation research strategy (Geroy & Wright, 1988) as a guideline, a needs assessment was conducted with 280 support-staff, faculty and administrators. The Nominal Group Technique (Debeque & Van Deben, 1974), a comprehensive process for data gathering within a group setting, was taught to representatives from each of these three groups. These representatives facilitated the participation of virtually all employees at the college in identifying a prioritized list of items that would enable these persons to "do their job better" - from their perspective. Analysis of the suggested performance improvement needs utilized the Performance Technology Model (Gilbert, 1978) and revealed that the solutions fell into five categories of intervention: high yield training, direction and flow of information, resources, performance incentives, and medium yield training. Results indicated that improving employee performance required altering information, resource and incentive systems and that without these alterations, most training was likely to have minimal effect.

Methodology

Each stage of the Evaluation Research Model was incorporated into some phase of the project. In clarifying the goals of the professional development planning process, the Professional Development Committee and the consultants used group discussion and the Nominal Group Technique as they:

- Selected and Evaluated the Research Purpose: Needs Assessment - Stage One,
- Identified the Technique to Be Used: Front End Analysis - Stage Two, and
- Developed the Research Question: "What do I need to do my job better?" - Stage Three.

Focus groups were then held with representatives from each functional area in order to identify any perceptions or problems in the workplace that might have an impact on the planning process. At this point, the Committee and the consultants:

- Established a Collaborative Utilization Focused Process - Stage Four, and
- Determined Research Focus: Evaluation Research Without Goals - Stage Five.

With the data gathered through committee meetings and the focus groups, the consultants then:

- Determined the Evaluation Research Strategy: Anthropological-Holistic-Inductive - Stage Six
- Selected the Data Collection Method: Non-formal Instrument, Nominal Group Technique - Stage Seven

Assessment Technique

The Nominal Group Technique was used to gather data for the needs assessment (Debeque and Van Deben, 1974). This technique utilizes a structured group meeting conducted by a group leader or facilitator in five steps.

STEP ONE:

- Group members sit around a table, but initially, no talking takes place. Each individual has a sheet of paper with the "nominal question" on it. This question provides the primary focus of the meeting. This question is carefully constructed prior to the meeting in order to generate the required information. Participants, independently and silently, write down as many answers to the question as possible.

STEP TWO:

- After approximately ten minutes, the facilitator , going round-robin, calls on each member of the group to give one of his or her ideas. Each idea is listed on a flip chart and numbered sequentially. The purpose of this stage is to make sure that each participant is given equal opportunity to share his or her ideas, so that highly verbal individuals are not dominant. Thus all discussion and judgement are postponed.

STEP THREE:

- The facilitator reviews each idea sequentially, encouraging clarification questions, elaborations, support for an idea, as well as rebuttals, or hitch-hiking to new ideas. This phase is complete when all ideas have been reviewed.

STEP FOUR:

- This stage is optional depending on the number and kind of responses generated in Step Two. When there is great overlap of ideas, the group can categorize ideas by topic. This can facilitate the ranking that follows in Step Five. It is necessary, however, for members of the group agree on the categories established and the items that go into them.

STEP FIVE:

- Each participant silently and privately ranks the ideas by assigning a numerical value to the idea. Depending on the purpose of the NGT the ranking criteria could be cost of implementation, feasibility, importance, etc. The highest number in the ranking being the total number of the ideas (or categories). Each member's ranking of each idea is recorded and the average rank of each item is derived. This yields the group's priorities in relation to the ideas.

The advantages of the NGT are numerous, especially when one of the goals of the activity is to involve stakeholders. The NGT assures that each person has an equal opportunity to express his or her ideas and protects against dominant personalities. It stimulates the generation of ideas through silent writing in Step One and the round-robin listing in Step Two, thus preventing closure on ideas before all are equally considered. All participants have an opportunity to reflect on all ideas and have their questions and concerns addressed. Silent

ranking gives equal weight to each opinion during decision making and reduces peer pressure to support one idea. Furthermore, the NGT is cost and time effective. (Scott and Deadrick, 1982)

Implementation, Stage Eight of the Evaluation Research Model, took place in several steps. Representatives from each functional group were identified as facilitators of the NGT. These volunteers were trained for one-half day in how to facilitate the NGT. Finally, all employees of the college were gathered for a day and a half during which three rounds of the NGT were conducted.

On the morning that all employees meet together, the Needs Assessment Process was introduced and ice breaker activities, focusing on the mission of the college, were conducted. These activities were designed to encourage the free flow of ideas during the afternoon NGT sessions.

After lunch, each functional group, administrators, support staff and faculty, met in a different location. There they divided into groups of ten where the trained volunteers facilitated NGT Round One: Identify Needs and Round Two: Prioritize Needs. The question upon which the NGT was focused was "What do I need to do my job better?" All data from both Rounds were collected and volunteers from the support staff, some members of the Professional Development Committee members and the consultants worked until 10:00 pm organizing, typing and copying ALL responses.

The next morning each of the 280 participants received a copy of the responses of his or her functional group, as well as the responses of the other two groups. This served several purposes. It facilitated Round Three: Generate Solutions, by increasing the likelihood of constructive solutions. For instance, a review of all of the responses might reveal that some of the needs that might have appeared valid at first glance, were less so when compared to needs from other groups. The quick turn around also demonstrated responsiveness on the part of the committee to employee suggestions.

By the end of the day and a half, the project had evolved through the first eight stages of the Evaluation Research Model and utilized the Nominal Group Technique in three separate contexts: establishing the goals of the project (15 participants), training the facilitators (40 participants), and conducting the needs assessment (280 participants).

Stage Nine: Analyzing and Reporting Results was carried out over the six weeks that followed. During this time, The Professional Development Committee categorized all of the needs and solutions using the Performance Technology Model. The resulting categories facilitated the decision making analysis.

Analysis Model

The premise of performance technology is that there are a variety of factors in the workplace that have bearing on performance effectiveness and that appropriately adjusting these factors can yield exemplary performance, often without training. Thus, it behoves those responsible for the performance of others to identify environmental and individual factors in a given workplace that will not only improve performance, but also maintain exemplar quality without costly training.

These factors are perhaps best represented by the Behavior Engineering/PROBE Model developed by Thomas Gilbert (1978, 1982) which is the basis of the Performance Technology Model (See Figure 2.). This model identifies the kinds of things that can be done to improve and maintain performance, one of the primary goals of any professional development project.

It is Gilbert's claim that any job that is supported in all six of the areas of the Model should "carry a guarantee of high competence, provided that management was structured so as to really deliver these things and had a clear focus on the mission of the job in the first place" (1978, p. 87).

Research and experience verify that without good needs assessment, training is likely to be the performance improvement intervention of choice. When training is used, but it's not the most effective solution; wants instead of needs are usually being addressed. At the same time, the value of training yields less than optimal return on the dollar and time investment, and has little long term impact on the organization as a whole (Kaufman, 1986).

Strategies related to evaluation research and performance technology have proven effective in both carrying out "front end" identification of needs (Geroy & Wright, 1988; Gray

1987; Debeque & Van Deben, 1974) and deciding how to address the needs so that the training that is eventually done will have high yield to the trainee and the organization (Earle, 1990). Performance technology helps to indicate where training is not the best choice of intervention and if training is the best intervention, what kind of training is best suited to meet the need.

Figure 2
Behavior Engineering Model

INFORMATION 1. Relevant and frequent feedback about the adequacy of performance. 2. Descriptions of what is expected of performance. 3. Clear and relevant guides to adequate performance.	INSTRUMENTS 1. Tools, resources and materials designed to achieve performance needs.	INCENTIVES 1. Adequate financial incentives made contingen upon performance. 2. Nonmonetary incentives available. 3. Career development opportunities.
KNOWLEDGE 1. Systematically designed training that matches requirements of exemplary performers.	CAPACITY 1. Selection of qualified personnel.	MOTIVES 1. Assessment of people's willingness to work for available incentives.

(Gilbert, 1978)

Results

The solutions generated from Round Three of the Nominal Group Technique were tabulated by the volunteers over a six week period. Lists of prioritized needs and suggestions were then organized by kind in order to facilitate analysis. For instance, all suggestions that had to do with the need for clarification or revision of the budget were grouped together. This is also a category of solutions. The process of grouping was conducted separately for faculty, support staff and administrators.

At the conclusion of this process, three separate lists of needs/solutions were forwarded to the consultants. Review of the data indicated that the groups of ideas/needs could be combined into at least one of five categories, depending on the type of solutions that would meet the need.

Category One: High Yield Development Programs

• The needs in this category could be met by effectively designed training that matched the skill and knowledge requirements of a specific job function. The term high-yield indicated that the benefit from the program was greater than the cost of implementing the program.

Category Two: Information

• Three general solutions met the needs in this category. The first solution was to provide descriptions of what was expected of performance. Second, to develop clear and relevant guides for job performance. Third, to provide relevant and frequent feedback about the level of performance relative to the expectations.

Figure 3
Findings: Administration

NEED THEMES	SOLUTION CATEGORIES					
	High-Yield Development Programs	Information	Resources	Incentives	Moderate Yield Development Programs	TOTAL NEEDS
1. Training: sensitivity, interpersonal relations, trust	12				10	22
2. Clarification of goals, objectives, policy procedures, practices		16				16
3. Communication		15				15
4. More help - additional personnel			11			11
5. Equipment needs			6			6
6. Recognition - appreciation				6		6
7. Budget	3	3				6
8. Space requirements			3			3
9. Delegation / attainment	1	1				2
TOTAL BY SOLUTION	16	35	20	6	10	87

The counts in the cells represent the number of times a need was indicated.

Category Three: Resources

• This category involved needs that could be solved by more equipment, better tools, a more effective working environment, or other solutions that require additional funding.

Category Four: Incentives

• Needs that could be met by adequate financial and non-financial incentives fall into this category. Optimally, these incentives should be based on performance. Also, career-development opportunity solutions addressed these needs.

Category Five: Moderate-Yield Development Programs

• This category was similar to Category One except for the yield derived from the implementation of the program. The cost of the program would not have been balanced by the benefit. This was probably due to another related need that fell into the Second, Third or Fourth Categories. It was recommended that programs in this category not be implemented until the other related needs were met. Once the related needs were met, however, the yield of the program might change, or the need for the program might be eliminated entirely.

These categories represent four of the cells of the Behavior Engineering Model.

Figure 4
Findings: Support

NEED THEMES	SOLUTION CATEGORIES					
	High-Yield Development Programs	Information	Resources	Incentives	Moderate Yield Development Programs	TOTAL NEEDS
1. Equipment needs, Environment space needs		3	30			33
2. Communication: Cooperation between departments	4	21			3	28
3. Uniformity of policies and practices		17				17
4. Recognition/respect: appreciation reward employee identification		8		4	1	13
TOTAL BY SOLUTION	4	49	30	4	4	91

The counts in the cells represent the number of times a need was indicated.

In comparing the categories across groups, it is interesting that, in each case, information needs/solutions were offered more than any other, and that resource needs/solutions were second. This is consistent with the experience of many performance technologists who often find, during the course of needs assessments, that information, in the form of clearly defined performance expectations, policies, procedures and feedback, is the greatest opportunity for improvement related to performance improvement. (Gilbert, 1991)

Providing information is less time consuming and less costly than providing training. It is also more likely to result in performance improvement. Training often occurs when an information problem still exists. Employees will still not be clear on performance expectations and do not receive feedback that will help them assess their progress towards performance expectations. In these situations, they simply cannot make maximum performance improvement. This results in frustrated employees and a frustrated organization.

As a result of the project findings and recommendations, the Professional Development Committee undertook the following follow-up activities.

- Conduct re-orientation program for all employees (INFORMATION)
- Use re-orientation program as the new employee orientation program (INFORMATION)
- Implement training identified as high yield: (TRAINING)
  - Interpersonal Problem Solving for administrators
  - Communication Skills for faculty and support staff
  - PC Teaching Methods for faculty
  - Delegation Skills for administration
  - Budget Planning for administration

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Figure 5
Findings: Faculty

NEED THEMES	SOLUTION CATEGORIES					
	High-Yield Development Programs	Information	Resources	Incentives	Moderate Yield Development Programs	TOTAL NEEDS
1. Money/resources budget			64	12		76
2. Discipline identification as with former Dept structure - specific staff development activities and programs	8	25		24		57
3. communication						40
a. interdepartmental contacts/ cooperation		18				
b. clarifying update purpose		1				
c. open forum issues to stimulate communication		5				
d. streamline current College bureaucratic procedures		6				
e. budgeting process		9				
4. Equipment needs	3	3	22		3	31
5. Self-determination issues- input in decision making		24				24
6. Professional vs. employee identity - administrative /faculty dialog & relations		19				19
7. Training: PC's, teaching	12	2			5	19
8. How to deal with special	3	4	3		2	12
9. Recognition				4		4
10. Team building		2			2	4
TOTAL BY SOULTION	26	118	89	40	13	286

The counts in the cells represent the number of times a need was indicated.

- Establish a new committee to oversee non-instructional performance improvement solutions
- Present an overview of performance technology to the Professional Development Committee
- Review results of training and non-instructional interventions after one year

The solutions reported in the resources, incentives and information categories were not immediately addressed by the committee for two reasons. Their mission had been to plan

professional development activities within the traditional paradigm of professional development. Once their vision of professional development had been expanded to include non-training factors that support performance improvement, they felt that the most responsible strategy would be to have a new committee established that could focus exclusively on non-instructional performance improvement solutions. Secondly, the original committee was not empowered to authorize the budget expenditures that might be necessary to implement resource and incentive solutions.

Conclusions

The benefits from this project are numerous. Evaluation research (Geroy & Wright, 1988) facilitated the decision making regarding the relative worth of and priority of actions to promote both professional growth and institutional development. Without the project, the Professional Development Committee would have selected training activities that might, or might not, have addressed some of the needs of the college employees. Certainly, they would not have considered non-instructional needs.

All of the challenges that were identified by the consultants at the beginning of the project were addressed:

- All employees (stakeholders) were involved equally in identifying professional development needs. This was particularly significant for the support staff, whose work keeps an organization moving. It was the first time they felt anyone had listened to their concerns or ideas.
- The planning committee did recognize that certain non-training actions were required in order to maximize the worth of training
- Data was elicited from all 280 employees that represented both wants and needs of the employees of the college. The degree of overlap of needs/solutions validated both the data and the effectiveness of the process.
- Decision makers were provided with with systematic process for selecting professional development activities that will yield maximum results for cost and effort.

There were also benefits related to the practice of performance technology. This project illustrated the number and kind of responses generated through the nominal group technique, as well as the range of professional development options that emerge from NGT responses. It reflected the cutting edge of performance technology by virtue of: applying of performance technology in an academic setting, involving all employees of the organization, addressing the desire of the organization for training while simultaneously, presenting alternative performance improvement solutions, and introducing performance technology as the decision making model for all HRD functions of the organization. The project also provided techniques, references and examples that can be used in convincing decision makers of the value of conducting a needs assessment.

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